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OBSERVATIONS CONCERNING THE ORGANIZATION OF SCHOOLS AND CERTAIN PHASES OF EDUCATIONAL WORK IN GERMANY

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The organization and administration of schools and school systems is of such vast importance, and naturally of such great interest to a principal, that I gave a great deal of attention to the study of the organization and management of schools. As to special fields, I studied the following phases of educational activity:

a) Schools for those children whose progress has been retarded; akin to our ungraded classes.

b) Schools for backward or exceptional children.

c) Parental schools.

d) Continuation and trade schools.

e) Open-air schools (*Waldschulen*) and recreation resorts in the woods (*Walderholungsstätten*).

f) Physical education: Gymnastics, playgrounds, outings, *Schülerwanderungen*, vacation colonies.

It was at all times my effort to find the best of what is *thoroughly typical* of the educational policy of the places visited, and I shall not report on anything that is exceptional, unusual, or simply experimental. I shall restrict myself to pointing out what seems to me particularly worthy of our attention.

Our system of public education is so different from that of the countries which I visited that it seems necessary to point out briefly the essential differences in order to avoid referring to them repeatedly in the remarks that are to follow.

At least two parallel systems of schools exist in Germany, and each is represented by several types of schools. With us, all pupils have to pass the eight grades of the elementary school before they are admitted to the high schools, and there is practically no other way of reaching these schools. High schools are the direct continuation of the district schools and depend entirely upon the preparation that is given all pupils alike in the elementary schools. Not so in Europe. Generally speaking, all pupils who will probably receive but an elementary education and who will leave school at the age of fourteen or fifteen, attend the lower grade of schools (*Gemeindeschule*, *Volksschule*, *Districtschule*, *Mittelschule*, *Bürgerschule*), while most pupils who probably will receive what corresponds to our high-school and college education enter after three to four years of preparation, *at the age of nine to ten years*, the higher schools (*Realschule*, *Oberrealschule*, *Realgymnasium*, *Reformgymnasium*, *Gymnasium*). These higher schools often have an elementary department that prepares the young pupils in three years for the lowest class of the institution. A good pupil of the common schools may, at the end of the fourth year, enter the lowest class of the higher schools by examination. The courses of the higher schools are carefully planned to meet from the very beginning the conditions required by the higher aim. As an example of the broadness of the foundation may be mentioned that the youngest pupils study, besides the common branches, French five hours, natural science two hours, history two hours per week in *Realschulen*, and eight or nine hours of Latin in *Gymnasia*.

This very early parallelism of the elementary schools and of the higher institutions is one of the most interesting and prominent distinctions from our system, and while apparently less democratic, it is in reality of advantage to the vast majority of both classes of pupils.

The sole function of the elementary school is the preparation of pupils for the ordinary walks of life, and matter and method are planned with this aim definitely in view.

In the higher schools, the long courses of training in definite subjects, harmoniously arranged from grade to grade and *continued through a number of years*, produce a degree of thoroughness and power that cannot be attained in another way. These schools provide a high degree of general culture and also prepare for the universities and highest technical schools.

A student of schools and systems will, of course, make comparison with the educational conditions at home and use the system that he knows best as a standard of measurement. It is, however, necessary, when comparing the efficiency of our system with that of Germany, to keep distinctly in mind that in Germany these two great classes of schools operate side by side, and that it would evidently be incorrect and unfair to compare our common school below the high school with the *Volksschule* alone. The only reasonable procedure is to consider the average age of pupils attending our grades, and compare broadness and depth of subject-matter taught, the methods of instruction, and the proficiency attained by pupils of corresponding age without reference to the kind of school they attend.

To give an idea of the comprehensive nature of even the elementary courses, and of the time devoted to the several branches in the various grades, I insert the weekly program for the lowest type of elementary schools.

ELEMENTARY SCHOOLS

WEEKLY TIME TABLE OF THE GEMEINDESCHULEN OF BERLIN
NUMBER OF HOURS PER WEEK FOR EACH STUDY AND GRADE

	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade
Religion	3	3	3	4	4	4	4	4
Reading, language, spelling	8	7	7	6	6	6	6	6
Object Lessons	2	2	2	..	..	..	..	..
Geography	..	..	..	2	2	2	2	2
History	..	..	..	2	2	2	2	3
Arithmetic	4	4	4	4	4	4	4	4
Geometry	..	..	..	..	..	3	3	3
Nature-study, including physiology, elementary physics, and chemistry	..	..	..	2	2	4	4	3
Drawing	..	1	2	2	2	2	2	2
Writing	..	2	2	2	2	1	1	1
Singing	1	1	2	2	2	2	2	2
Gymnastics	2	2	2	2	2	2	2	2
Total hours	20	22	24	28	28	32	32	32

Manual training, bathing (shower baths), swimming, attendance on playground games and sports are optional.

In examining this table we find that ample time is given to the fundamental branches, but we note especially that the range of subjects taught in this lowest class of elementary schools provides for its pupils a broader and more comprehensive training than we give in our district schools. Indeed, our course absolutely lacks instruction in branches that are both useful in their training value and practical for life.

In the lowest grades stories from history are taught in connection with reading and object lessons, but from the fourth grade upward regular lessons in history are given two hours, and in the eighth grade three hours a week.

Geometry is taught in the *sixth*, *seventh*, and *eighth* grades, three hours a week, besides four hours of arithmetic a week throughout the course.

Regular lessons in nature-study are given in all grades, but in addition *elementary physics and chemistry* are taught in the *sixth, seventh*, and *eighth grades* two or three hours a week. Excellent illustrative material, apparatus, and supplies are furnished to make this instruction effective, and the pupils of these schools acquire a good knowledge of common things and of natural laws and phenomena of which our boys and girls are sadly ignorant. The teaching of elementary physics is especially valuable for the training it supplies in logical thinking and in definiteness of oral and written expression. My observations lead me to recommend an early reintroduction of elementary physics into our district-school course.

The following weekly time table is representative of one type of the higher schools, the *Oberrealschule*. The lower five or six classes are attended by children of the average age of nine to fourteen or fifteen years and may therefore be approximately compared to our classes from the fourth to the eighth grade inclusive. The heavy line in the table marks off these grades from the higher grades.

In addition to these subjects the following are optional: Latin, manual training, shorthand, orchestral music. From this course it appears that in the grades corresponding to our fourth to eighth a broad and solid foundation is laid not only in the common branches but also in history, mathematics, the natural sciences, physics, chemistry, French, and English, and that *all* these sub-

WEEKLY TIME TABLE OF AN OBERREALSCHULE AT CHARLOTTENBURG

Number of Hours per Week for Each Study and Grade

	Grade VI	Grade V	Grade IV	Grade IIIb	Grade IIIa	Grade IIb	Grade IIa	Grade Ib	Grade Ia
Age on entering	9.55	10.7	11.91	13.3	14.33	15.5	16.6	17.17	18.17
Religion	3	2	2	2	2	2	2	2	2
German	6	5	4	4	4	3	4	4	4
Geography	2	2	2	2	2	1	1	1	1
History	..	..	3	2	2	2	3	3	3
Arithmetic	4	4	..	..	..	..	..	..	..
Mathematics	..	..	6	5	5	5	5	5	5
Natural science	2	2	2	2	2	2	..	..	..
Physics	..	..	..	..	2	2	3	3	3
Chemistry	..	..	..	..	..	2	3	3	3 (2)*
French	6	6	6	6	5	5	4	4	4
English	..	..	..	5	4	4	4	4	4
Drawing, freehand	..	2	2	2	2	2	2	2	2
Drawing, linear	..	..	..	..	(2)	(2)	(2)	(2)	(2)*
Writing	2	2	2	1	1	..	..	..	..
Singing	2	2	2	2	2	2	2	2	2
Gymnastics	3	3	3	3	3	3	3	3	3
	30	30	34	36	36	35	36	36	36
Optional	..	..	..	..	2	2	2	2	4
Total hours per week	30	30	34	36	38	37	38	38	40

*Optional.

jects are *continued throughout the course*, every pupil being required to take all these lessons. The graduates of this school have received instruction in

Natural sciences	6 years
Physics	5 years
Chemistry	4 years
Mathematics	7 years
History	7 years
Geography	9 years
German	9 years
French	9 years
English	6 years

This long-continued application to a somewhat limited number of subjects provides an excellent scientific and modern classical training, and results in a surprising accuracy of knowledge and remarkable thoroughness in the students.

Other conditions that contribute to this result need special mention.

The pupils of these schools are taught from thirty to forty hours a week (including recesses) which is largely in excess of the time that our pupils spend in school.

As the lessons are distributed over six forenoons and one to three afternoons, and as recesses are frequent, the pupils are not overburdened.

Homework is required of the pupils of all grades.

It is clear that greater progress is possible and that more time can be taken for reviews and for deepening and broadening the instruction than where the actual school time per week is so exceedingly limited as with us. Eighty per cent of our pupils attend school but twenty-five hours a week including recesses. *The time spent in school by German pupils therefore exceeds* our time in the fourth and fifth grades by 20 per cent, in the sixth grade by 36 per cent, and in the seventh and eighth grades by about 48 per cent!

The cheerfulness and vigor displayed by the boys during their gymnastic exercises and games as well as in their sports on the playground are proof that the time given to their studies is not excessive.

A distinctive feature in all types of higher schools is the *class organization* of students throughout the course. The members of the upper grades, corresponding in age, approximately to those in our high-school grades, are formed into classes, each being assigned to a certain classroom where all instruction is given excepting laboratory work. Each class is in charge of a class teacher (*ordinarius*) who is especially responsible for the welfare of his class. This teacher instructs his class usually in one or two branches, and other teachers, specialists in their fields, enter the room successively to take charge of the class so that each group or class as a unit is *during the whole school day* under the direct supervision, instruction, and guidance of a teacher. In the school quoted, for instance, one Senior class numbering but 15 students, and another Senior class numbering 25 students, remained each intact as an organization for one year, and were every minute of the school time under the influence of a number of very fine men who are excellent teachers; and so are all the classes of this school and of the schools of its type.

Considering the fact that *our pupils of the high schools* usually take four studies of 45 minutes each per day, they are *under this direct influence of their teachers only 15 hours each week*, while German pupils of equal rank *enjoy this advantage more than thirty hours* each week.

This continuous influence of teachers, the class organization, and the definiteness of subjects studied for many years, easily account for the frequent reports of the excellency of the German higher schools.

It needs to be added that teaching is a profession in Germany and that all teachers of these higher schools are men of excellent preparation for their work.

Concerning the work required of teachers, the principle prevails in all classes of schools that the quantity of work is reduced as the teacher's years of service increase. The *Oberrealschule* No. 1 of Charlottenburg, mentioned above, contains *18 classes*, but the *number of teachers employed is 28;* 13 of these teach from 21–24 hours a week, including recesses; 13 teach 20 hours a week, including recesses; 2 teach 17 hours a week, including recesses. Their lessons are irregularly distributed during the week according to the requirements of classes.

A FUNDAMENTAL PRINCIPLE OF SUCCESS

One of the most prominent merits of German schools is the conscious and succcessful effort of teachers to make all instruction as far as possible objective. On the outer walls of a Dresden school building, one of the great principles of education, as announced by Pestalozzi, is inscribed in gilt letters: "Der Ursprung und das Fundament aller Erkenntniss ist die Anschauung. Von dieser Form hat der Unterricht auszugehen."

This principle seems to be the soul of the teachers' work in all schools of Germany, and in elementary schools in particular; it pervades all educational activity, and produces very good, often excellent teaching. The teachers do not merely conduct recitations or hear lessons, but teach the subject in hand till the pupils have comprehended it, till they have gained a clear, definite, vivid, and lasting knowledge of the lesson. To enable the teachers to apply this great fundamental principle, an astonishing wealth of material (*Lehrmittel*) is at his command. The liberality with which the common schools in Germany are fitted out with all sorts of material devised to make good teaching more effective by appealing directly to the senses is one of the features that cannot be too strongly emphasized. Every school building has one or more rooms, large and conveniently located, where this *Anschauungsmaterial* is systematically arranged and easily accessible. Good cupboards, stands, supports, drawers, and other fixtures are provided to hold and protect these things. A definite sum of money for each class is appropriated each year for the enlargement of this collection. Besides maps and globes we may find here a large variety of excellent pictures of large size illustrating nearly all subjects taught in geography, nature-study, physiology, hygiene, first aid to the injured, history, the progress of civilization, and all fields of human activity. All these pictorial illustrations are large enough to be distinctly seen by all members of the class, and many are designed by artists.

The same subjects are also illustrated by collections of natural or artificial specimens of natural and industrial products, and also by models. A detailed description of these *Lehrmittel* cannot here be attempted as the field is almost boundless, and reference must be made to one of the large catalogues[1] to gain a faint idea of the richness of these accessories to effective teaching. The manufacture of this instructional material has become an important industry in Germany.

All *elementary* schools have a collection of apparatus and supplies for the teaching of elementary physics and chemistry, and in many of these schools a special "physics room" is provided to which classes of the sixth, seventh, and eighth grades go to receive instruction in these branches.

A very large room or hall is fitted up in most schools for the work in drawing. The tables are provided with stands for the models, and good collections of models such as needed in modern courses in drawing are furnished. In some cities a small sum of money is allowed each drawing teacher to buy flowers and other natural objects that cannot be procured from the school garden. Fine and very large glass cases placed in these drawing-rooms hold and protect the drawing-models and the material. The instruction in drawing is in nearly all cases given by teachers who are specially trained for the work. Ample opportunity is, however, given the regular teachers to attend courses that introduce them to the requirements of modern drawing in weekly lessons that often extend throughout the year. These courses are here mentioned because the ability of teachers to sketch and illustrate rapidly stands in close relation to objective teaching.

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[1] *Schulwart Katalog: Lehrmittel.* Leipzig und Berlin: F. Volkmar.

The most important exponents of the fundamental idea of instruction through *Anschauung* are the numerous museums. While all of these have a strongly educational influence, there is one type of museum whose only purpose is instructional, and of this class probably the grandest example is the Deutsche Museum at Munich. Here the triumphs of human genius over nature and its forces are demonstrated by very extensive collections of originals and models covering nearly all departments of human endeavor; and here the inspection and observation of realities and processes that are difficult to understand from description or from books impresses one with the truth and the importance of the great principle "The origin and foundation of all knowledge is *Anschauung*. From this form all teaching has to proceed."

[*To be continued*]